

A NOTE ON THE TYPE LOCALITY OF *OENOTHERA ARIZONICA* (ONAGRACEAE)

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ABSTRACT

The type locality for *Oenothera arizonica* (Munz) W.L. Wagner (Onagraceae), in the valley of the Santa Cruz River, north of Tucson, Arizona, USA, is elucidated based upon historic property records. Today, the area of the historic farm is the site of residential and industrial development and a highway interchange.

RESUMEN

La localidad del tipo *Oenothera arizonica* (Munz) W.L. Wagner (Onagraceae), en el valle del Río Santa Cruz, al norte de Tucson, Arizona, EEUU, está documentada en base a archivos históricos. Hoy, la área del rancho histórico es una zona de desarrollo residencial e industrial, y también el lugar de una intersección de autopista.

The desert evening primrose, *Oenothera arizonica* (Munz) W.L. Wagner, is a sprawling winter-spring annual that grows in sandy and floodplain soils at lower elevations of the Sonoran Desert in northwestern Sonora, Mexico, and southwestern Arizona, USA (Fig. 1A & 1B). This note presents geographical and historical context for its type locality:

Oenothera arizonica (Munz) W.L. Wagner, Novon 8:308. 1998. *Oenothera deltoides* Torr. & Frém. var. *arizonica* Munz, Amer. J. Bot. 18:315. 1931; *Oenothera californica* (S. Watson) S. Watson ssp. *arizonica* (Munz) W.M. Klein, Aliso 5:179. 1962; *Oenothera avita* (W.M. Klein) W.M. Klein ssp. *arizonica* (Munz) W.M. Klein, N. Amer. Fl. II, 5:116. 1965. TYPE: U.S.A. ARIZONA. Pima Co.: Grossetta [sic] Ranch near Tucson, Arizona, 2400 ft elev., 28 Apr 1903, J.J. Thornber 509 (HOLOTYPE: UC!; ISOTYPES: ARIZ!, MO, US).

In addition to the type, cited above, four collections of *Oenothera arizonica* are known from the type locality: “along ditches,” 5 Mar 1901, Griffiths 2393a (ARIZ!); 29 Apr 1902, Mr. & Mrs. Thornber s.n. (MO!); 20 Apr 1903, Thornber 4931 (ARIZ!); 27 Apr 1903, Mrs. Thornber 2983 (ARIZ!). Specimens at ARIZ document other species at Grossetta’s ranch in 1902–1903: *Bromus diandrus* Roth, *Hordeum arizonicum* Covas, *Helianthus petiolaris* Nutt. var. *canescens* A. Gray, *Machaeranthera asteroides* Greene var. *asteroides*, *Malacothrix glabrata* (A. Gray ex D.C. Eaton) A. Gray, *Stephanomeria exigua* Nutt. ssp. *exigua*, *Eremalche exilis* (A. Gray) Greene, and *Gaura parviflora* Lehm.

Type localities for new species or infraspecific taxa described from historical collections are often poorly defined, primarily the result of limited data on specimen labels. In some cases, a place name is idiosyncratic to the era of the collection, whether or not it ever appeared on a map. The type locality of *Oenothera arizonica* is an example of the latter: a farm whose owners were known to the collector and in the community, but which did not become an enduring geographic entity. In the spring of 1891, the Tucson newspaper drew attention to local farming efforts, including “S.V. Grossetta, one among the few enterprising men of this valley, is preparing to try the efficacy of irrigating his lands down the Santa Cruz by means of pumps. If others have been successful Mr. Grossetta certainly will be” (Arizona Daily Star, 14 Apr 1891, pp.3). The paper undoubtedly meant A. (Antonio, or Anthony) V. Grossetta, who had moved to Tucson in 1880 and became a prominent proprietor and promoter of culture in the town (G. Grossetta, pers. comm., Dec 2003). The boundaries of Grossetta’s ranch were legally recorded, even if the particular collection sites of *O. arizonica* within that parcel remain unknown.

The 120-acre Grossetta parcel included portions of sections 34-35, T.13S, R.13E (Pima County Recorder 1906), extending east across the floodplain of the Santa Cruz River for three-quarters of a mile, at about 2310-2340 ft (704-713 m) elevation (Fig. 1C). The northern boundary of the one-time parcel became the

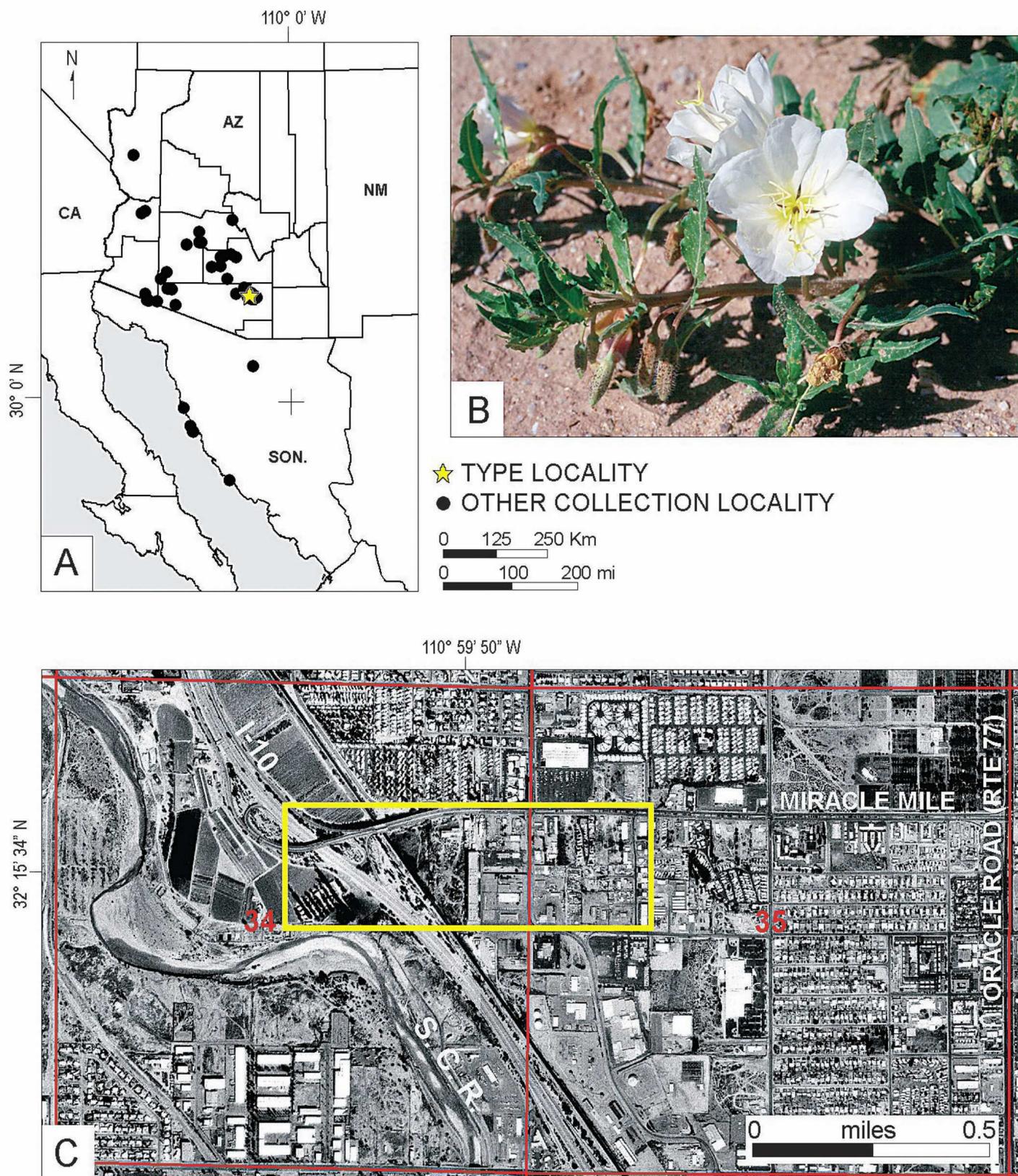


FIG. 1. *Oenothera arizonica*. **A**—Location of the type locality in Pima Co., southern Arizona, within the geographic range documented by specimens at University of Arizona Herbarium (ARIZ) (modified from records available through the SEINET database, seinet.asu.edu). **B**—Trailing stems of the living plant (photo by the author, 25 Feb 2005, Eloy Basin, Pinal Co., Arizona). **C**—Type locality in 1992 aerial photography, showing the boundary of the 1891 Grossetta parcel (yellow) near the meandering Santa Cruz River (S.C.R.) and Interstate 10 (I-10) in northwest Tucson. Section lines are shown in red, and nearby major roads are labeled. Images are portions of USGS digital ortho quarter quadrangles (section 34, Jaynes SE; section 35, Tucson North SW) from Arizona Regional Image Archive (aria.arizona.edu). Maps are displayed in Universal Transverse Mercator projection (NAD83/zone 12); geographic coordinates at the parcel center are for the WGS84 datum.

alignment for what is now called “Miracle Mile,” originally part of the two-mile dogleg, built in 1937, joining U.S. Highway 80/89 and State Highway 84 (Anonymous 1937), and today the southern terminus of State Highway 77 where it meets U.S. Interstate 10. The modern interchange at Interstate 10 fills the western portion of the former ranch, near the University of Arizona Experimental Farm that also takes up part of the Grossetta’s original parcel. East of the interstate, an industrial site, warehouses, and housing occupy the land.

Conservation concerns.—As a farm and orchard in the Grossetta’s time, the type locality of *Oenothera*

arizonica was near the eastern and upper elevation limits of the species' range as it has since been documented by other collections (Fig. 1A). This range corresponds closely to the Lower Colorado River Valley biogeographic subdivision of the Sonoran Desert (Shreve 1951). The river valleys associated with this biotic community, including those near Tucson, have in the past century been intensively utilized for agriculture where irrigation is available; in the past thirty years, the lowlands characterizing this subregion have experienced among the highest rates of population growth in the binational Sonoran Desert (Nabhan & Holdsworth 1998). Although the desert evening primrose may grow in fallow fields and along farm roads in agricultural areas (author's observations), widespread disturbance and replacement of low desert landcover—and of agricultural fields—with urban land uses may present a conservation concern for *O. arizonica* populations as the region continues to endure unprecedented development.

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